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Los Angeles River Characterization Study Underway

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In an unprecedented multi-agency partnership, a volunteer group of residents, ecologists and environmentalists, together with City, County and State staff launched a characterization study of the Los Angeles River in early September. Gathering first at the Los Angeles River Center on a bright sunny morning, over 80 volunteers set out on foot, on bicycles, in kayaks, and in cars to take river water samples along the length of the River. "The intent of the study, one of the most ambitious of its kind, was to collect data to better understand pollution sources entering the Los Angeles River from its watershed," stated Judith A. Wilson, Director, Bureau of Sanitation. "This data will ultimately be compiled into a model that will create an accurate portrait of river water quality and the sources of pollutants along the LA River," continued Wilson.

Volunteers took water samples from the LA River to test for a wide range of pollutants that included nutrients, total suspended solids, metals, total organic carbon, and coliform bacteria. In addition to the water sampling, volunteers also conducted detailed field observations for every

"This data... will create an accurate portrait of river water quality and the sources of pollutants along the Los Angeles River."

— Judith A. Wilson
Director, Bureau of Sanitation

storm drain flowing into the Los Angeles River. Their goal was to examine each storm drain for trash, algae, water flow and temperature and to photograph the surrounding

river area or tributary. These photographs will be placed onto a web site to create a photo record of the Los Angeles River and its tributaries.

Data collected from this study will be used to construct a water quality model for the River. This model will be used to predict the levels of pollutants under different flow con-



Stormwater Water Biologist Mike Mullin collects water samples in the Los Angeles River.

ditions and levels of pollutant inputs in various areas of the River's watershed. Urban runoff washing pollutants from the land is of particular concern along the LA River. Ten percent of the River's flow comes from urban runoff, which contains pollutants including automobile oil, lawn chemicals, and animal waste and copper from brake pads.

Approximately 85% of the River's flow is tertiary-treated effluent from two sources: the City's Los Angeles-Glendale and Donald C. Tillman Water Reclamation Plants. This

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City of Los Angeles
Department of Public Works
Bureau of Sanitation



Early History of the Los Angeles River

In 1769 the expedition of Don Gaspar de Portola brought a group of European explorers to Southern California. Traveling with this group was a Spanish priest, Father Juan Crespi, who recorded the first written description of the Los Angeles River. "...through a pass between low hills, we entered a very spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river from the north-northwest." De Portola's party camped along the river near Elysian Park. Having arrived on the jubilee celebration of our Lady of Los Angeles de Porciuncula, the group named the meandering waterway that crossed the pueblo *Rio de Porciuncula*.

Twelve years later, on September 4, 1781, settlers commissioned by the governor of Mexico came to this location to found *El Pueblo de Nuestra Sonora La Reina de Los Angeles*. And, like many other great cities built along major waterways, Los Angeles prospered. The river became a center for growth as more and more people depended on it for fresh drinking water and crop irrigation. In addition to people, many other forms of life flourished in the river and on its bank. They included sycamore, alder and cottonwood trees, hundreds of species of birds and steelhead trout.

In an effort to further promote growth in the pueblo, community-owned irrigation networks, called *zanjas*, were built to supply residents with water from the Los Angeles River. However, by 1900 the pueblo had become a city of over 100,000 people and water supply became a critical concern. The *zanjas* could no longer supply the quantity of water needed, so by the early 1900s an aqueduct was constructed to bring water from the Owens Valley – some 250 miles north.

THE RIVER'S NATURAL FLOW

Flooding is a natural occurrence with all rivers and the area covered by these flows is known as the floodplain. Until this century, the Los Angeles River flowed freely within its natural banks. Periodically, heavy rains would cause its waters to overflow the banks and spread for miles across the coastal plain until they eventually reached the ocean or drained into the ground to replenish the groundwater, or aquifers.

Until 1825, the river's course flowed east from the Sepulveda Basin, southeast through Glendale narrows, south through the pueblo (downtown Los Angeles), then west along what is now Washington Blvd and into Santa Monica Bay. That year, however, an excess in sediments deposited during a huge storm caused the river to dramatically change its course; instead of traveling west from downtown, it flowed south towards San Pedro Bay. *(Continued on next page)*

"...through a pass between low hills, we entered a very spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river from the north-northwest."

Father Juan Crespi,
Early Spanish explorer describing the Los Angeles River in 1769



Historical data suggests an abundance of riparian wildlife such as the Northern Harrier (top), the Yellow-billed Cuckoo (middle) and the Great Blue Heron (above) once inhabited the areas along the Los Angeles River. Steelhead Trout (below) were in fact, reputed to have been found in the river as recently as the 1940's.



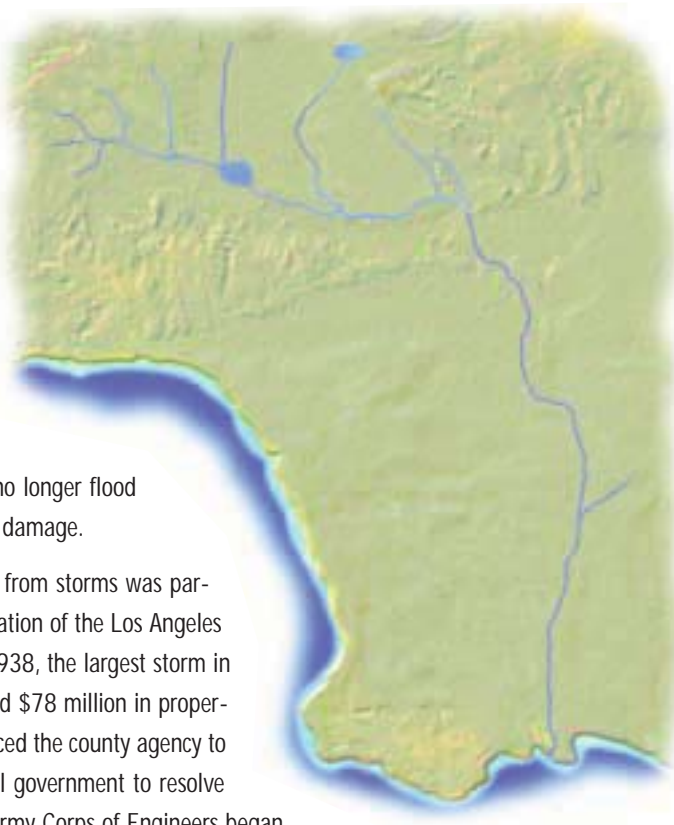
THE CHANGING LANDSCAPE

Despite the flooding and the long droughts that typically follow large storms in Southern California, Los Angeles was inviting to settlers and developers. The river's floodplain was gradually covered with houses, roads and commercial enterprises. However, as the city encroached more and more on the floodplain, the river could no longer flood naturally without causing property damage.

In 1884 and 1914, flood damage from storms was particularly severe and led to the creation of the Los Angeles County Flood Control Agency. In 1938, the largest storm in the region's recorded history caused \$78 million in property damage and took 80 lives. It forced the county agency to request assistance from the federal government to resolve the issue. So it was, that the US Army Corps of Engineers began their first flood control project to contain the Los Angeles River in a concrete-lined channel. The project began immediately after the 1938 flood and was completed in the 1950's.

Although there was some opposition to construction of the concrete channel, local governments and the public supported the work of the Army Corps. The "untamed" river was perceived as a threat and hindrance to the future growth of Los Angeles. With the completion of several aqueducts bringing fresh water from the Sierra Nevada and the Colorado River, the Los Angeles River's role as a primary water supply was over. It appeared that concrete would finally solve the problems of this era.

In the Next Issue: The River of Today and Tomorrow



LA River Study

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effluent is filtered, chlorinated to kill viruses and bacteria. Before being released into the LA River, this water is dechlorinated to remove toxic chlorine by-products. Groundwater from underground aquifers originating in the San Fernando Valley make up the remaining 5% of the LA River's flow.

The Southern California Coastal Waters Research Project (SCCWRP) coordinated this multi-agency effort. Other partners who contributed resources included: US EPA, City of Los Angeles, County of Los Angeles, City of Long Beach, Los Angeles and San Gabriel Rivers Watershed Council, Friends of the Los Angeles River, Heal the Bay, the Mountains Conservancy, and the Southern California Marine Institute.



Early Angelenos used a waterwheel (above) to transport water from the river that fed irrigation canals and supplied fresh drinking water to the young city. This photo is a view looking east from what is now Elysian Park.

Park Policeman Ed Hunt (right) patrols the Los Angeles River in the Griffith Park area in 1911. Farmers and ranchers would often redirect stream courses away from their own land and into adjacent properties, causing owners to arm themselves and pitting neighbors against each other.



Cabrillo Coastal Park Trail Opens

SUZANNE LAWRENZ-MILLER
DIRECTOR, CABRILLO MARINE AQUARIUM

At the Cabrillo Marine Aquarium in San Pedro, a new 300-foot boardwalk now provides passage to the tidepools of the Point Fermin Marine Life Refuge improving what used to be an arduous excursion for only the young, hearty and fit. While the boardwalk stops somewhat short of the tidepools, it brings visitors close enough that only a short walk over slightly rugged terrain remains. The boardwalk also enables visitors to now enjoy a beautiful view back toward Cabrillo Beach, which only the spry, and residents living on the bluff above had been only able to see in the past.

In the early 1980s, heavy storms badly eroded the dirt path around the bluff and scattered the path's supporting cement blocks. The new boardwalk takes foot traffic off of what used to be a dirt trail, and with new interpretive signs and exhibits along the way, visitors can now learn about the myriad of marine life that inhabit our precious coast, thanks to the generosity of Friends of Cabrillo Marine Aquarium. A large sign at the boardwalk entrance announces the Point Fermin



Marine Life Refuge and states simple rules for protection of this environment. Six full-color interpretive exhibits highlight the diverse marine life in the different seashore habitats at Cabrillo Beach.

The Stormwater Program was a proud sponsor of the Cabrillo tidepools exhibit signs.



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